M. Dupont dwelt chiefly on the fact that at the epoch of the Mammoth there were two perfectly distinct populations in Belgium, one using the flint cut at Spiennes, near Mons, and the other that of the Somme. The highly interesting Museum of Archæology belonging to the town of Namur was afterwards examined by the Congress. At the meeting of Thursday, M. Dupont traced the connection of the various populations in Belgium among each other at the different ages of stone; after which a lively debate arose on the question of the descent of the present race of men from the troglodytes, and on the causes of the difference of types. In the afternoon the problems of the Tertiary age and the age of Bronze occupied the Congress. On Friday morning the question of determining the relative remoteness of the ages of bronze and of iron led to many valuable disquisitions; and Mr. Hyde Clarke gave a summary of the recent anthropological discussions at Brighton.

M. de Quatrefages summarised the results of the present Congress, and stated as the principal ones that the elements of the prehistoric populations—even of the age of stone—are discernible in the present population, and that even in the most remote ages the migrations of races took place on a much more extensive scale, and with more frequency than was believed by any one till recently. M. Vervoort, one of the Belgian vice-presidents, next presented to the Congress, in the name of M. Geefs, the well-known sculptor, a bust of M. d'Omalius d'Halloy, who presided in person at this the last meeting of the Congress. This bust is a most striking likeness of the venerable *savant*, who was congratulated by M. de Quatrefages, speaking for the Congress, on the homage rendered to him by his colleagues. M. d'Halloy's services to ethnography have been long and valuable, and his vigour of mind and youngness of heart are astonishing in a man on the verge of ninety.

The proceedings terminated with the distribution to the members of a commemorative bronze medal on the part of the Belgian Government. This medal, having a diameter of nearly seven centimetres, bears on one side, within a laurel wreath, the inscription, "Congrès International d'Anthropologie et d'Archéologie Préhistoriques à Bruxelles. 6e Session, sous la Présidence de M. T. T. d'Omalius d'Halloy, 1872." The obverse represents the Genius of Science as a female figure, seated, and pointing with her left hand to the entrance of a cavern, bearing the inscription "Furfooz," and a mammoth's skull; while on the other side of the figure the geologist's shovel and pickaxe are displayed. The medal is by M. J. Geerts, of Brussels, and is very finely executed. M. d'Omalius then formally declared the Congress terminated, congratulating the members on the scientific progress achieved, and the harmony which had characterised the meetings.

In accordance with the invitation of the Swedish Government, the next assembly of the Congress will take place at Stockholm in 1874; the proposition to confer the presidency on that occasion on Prince Oscar of Sweden was carried by acclamation. On Saturday the members of the Committee, Belgian and foreign, dined with the King.

THE FRENCH SCIENTIFIC ASSOCIATION

AMONG the subjects expected to be discussed at the general meetings of the French Association at Bordeaux are one on Fermentation, by M. Pasteur, and another on Aërial Navigation, by M. Dupuy de Lôme. In the Mathematical Section, M. d'Abbadie is expected to read a paper entitled "Expériences pour constater les variations de la verticale." In the Physics Section, M. Cornu reads a paper on the "Velocity of Light;" M. Mercadier, one on "Musical Intervals;" M. Poter, on the "Theory of Light." In the Chemical Section, M. Berthelot is to speak on "Questions of Chemical Philosophy," and M. Wurtz on "The Densities of certain Vapours, and particularly on the Density of the Vapour of Perchloride of Phosphorus." In the Meteorological Section, M. Marié Davy is expected to read a paper on "The Organisation of Meteorological Observatories."

Other expected papers are—In Geology, M. Daubrée, "Beds of Phosphates in the South of France;" M. des Cloiseaux, "Amblygonite and Martebrasite." In Botany, M. Baillon, on "*Rheum* and on the Botanic Origin of Officinal Rhubarb;" M. Chatin, "Study of the Development of the Ovule and the Grain in the Scrophularias." In Zoology, MM. de Follin, Fischer, and Périer, contribute a paper on "Recent Submarine Explorations; M. Chatin, "Researches on the Odorous Glands of certain Mammifers;" Dr. Pouchet, on "Animal Pigments;" M. de Quatrefages, on "Some Species of Inferior Animals of the Basin of Arcachon." Anthropology, M. Broca, on "The Occipital Angles." Geography, M. Gustave Lambert, on "An Expedition to the North Pole."

The Excursions are:—1. To the embouchure of the Gironde, to inspect the encroachment on the coast. 2. To Arcachon, to visit the oyster-beds, dredge the sea for molluscs, &c. 3. To Les Eyzies, to inspect pre-historic remains and bone-caves. 4. To Roueyre, to inspect the iron of the Landes, &c. 5. To Bidassoa, on the Spanish frontier, to inspect a rich bed of iron ore. 6. To Medoc, on a visit to the celebrated vineyards of Château-Margaux and Château-Monrose. Besides these excursions, visits will be made in Bordeaux itself, to M. Gintrao's establishment for rearing silkworms in the open air; to the docks, dockyards, &c., and the artesian wells of Vigan In our last number we gave a list of the public lectures.

TEMPERATURE OF THE SEA BETWEEN GREENLAND, NORTHERN EUROPE, AND SPITZBERGEN

PROF. H. MOHN, Director of the Norwegian Meteorological Institute at Christiania, publishes in *Petermann's Mittheilungen* some important facts regarding the variations of temperature in the North Atlantic. The yearly variation of temperature of the surface stratum amounts to 9° Fah. and more; it becomes less as we go down, the decline, however, being not everywhere the same. Deep-sea strata reach their lowest and highest temperatures a little later than the surface stratum, the changes offering two very distinct aspects for summer and winter. Deep-sea observations in several of the deep fjords along the Norwegian coast, which are protected against the great depth of the Atlantic by submarine ridges lying before them, show that the water in them is derived from the Gulf Stream, and that they are filled with it from top to bottom, even if the latter lies deeper than the icy bed of the Gulf Stream outside the coast region; were this not so, the temperature of the water in the fjords would be a much lower one, and Norway would not enjoy such a happy union of land and sea climate. In summer, near the coast of Norway, and in its fjords, at a depth of from 100 to 300 fathoms, we find a uniform temperature of about 44° Fah.; farther out to sea, however, at the same depth, only about 39° Fah. The deep-sea temperatures in winter are less known, but it is almost certain that at great depths the same temperature reigns all the year round, although a continual cooling from the surface downwards necessarily takes place in winter. In the north-western part of the Greenland Sea, and below the depth of the Gulf Stream, exclusively icy water is found, which somewhat compresses the latter on that side, at any rate on the surface, where the water cooled during the winter nights remains over the warmer waters beneath. Along the coast of Norway the cold from the land acts on the surface and the upper strata of the sea, increasing

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with the nearness of the land, so that here the temperature of the sea rises with its depth, and the axis of warmth of the Gulf Stream is moved away from the coast towards the open sea. Taking the form of the Gulf Stream as that of its surfaces having the same temperature—isothermal surfaces—we can compare it with the shape of one of the small boats called prams, which are broadest at the stern, deeper in the centre than behind, and possessing a somewhat rounded stem. The stern of this Gulf Stream pram is formed by a vertical section from Iceland to Scotland; the longitudinal section forms the axis of warmth, running along the coast of Norway. The side nearest the Polar Ocean (the larboard side) is much more considerable than the starboard side, which leans against the Norwegian coast. In summer the starboard side is pushed quite close to the Norwegian coast, and hangs strongly over, while the larboard side is perpendicular, or only slightly inclined outward; the keel near Spitzbergen sitting deep in the water. In winter the starboard side is thirty (geog.) miles broad, and has in the parts lying nearest to the coast sides strongly inclining inward, while the strata in the centre and those bordering on the Polar Ocean rise nearly perpendicularly, the keel in the fore part raising itself almost into the position of the stem, which ends in the same point as that formed by the isotherms of the surface at this season. Generally this aspect is only presented by the part of the sea which lies westward from Norway and partly from Spitzbergen.

The warm waters of the Novaja Semlja Sea are like a wedge placed horizontally, with its base between Spitzbergen and Norway, and its horizontal sharp edge turned towards the north and east.

THE ROYAL SOCIETY OF VICTORIA

WE are glad to notice the progress of Science in Victoria as exhibited by the address of the President, Mr. Ellery, on the occasion of the annual *conversazione* held on July 8. We reprint the following extracts from the *Argus* of the following day:—

"We have now entered upon our fifteenth session, and as you have done me the great honour to again choose me as your President, it devolves on me, in accordance with our rules, to address you on the past year's history and progress of the Society; and also to call your attention to some of the more noteworthy facts which mark the last year's history of general scientific progress. First, then, in reference to our own business, I regret to have once more to inform you that, since the last publication of the *Transactions* of the Society, the funds have not been in a sufficiently flourishing condition to enable the council to resume the printing. For many years past the only revenue of the Society has been that derived from entrance fees and subscriptions of members. From this not only the current expenses but the interest on money borrowed for carrying out the alterations and additions to our buildings has to be paid; and although our income will amply meet these demands if the annual subscriptions of members are regularly paid, there has hitherto been an insufficient sum left to print our *Transactions* without other aid. The Government have been solicited for help every year since 1867, when the last aid was granted to us by Parliament. The council hope, however, that this year their request will be acceded to. I am happy to state, moreover, that (many arrears of subscriptions having been received of late) the financial condition of the Society is just now better than it has been for years. It is intended, therefore, at all events to at once print the *Transactions*, and the council trust that they may be able henceforward to publish promptly and regularly the proceedings of our meetings, which they will be quite able to do if the Parliament resumes its small annual grant-in-aid. Our last anniversary meeting was held on August 14, 1871. Since that time the Society has held eight ordinary meetings. On September 11 a valuable paper 'On Ocean Waves and their Action on Floating Bodies,' was contributed by Mr. Deverill. Mr. Macgeorge also read a paper, contributed by Mr. Horne, of Adelaide, 'On a Linear Method of Finding the Stability of Ships;' and Mr. Pain, on 'Aboriginal Art and its Decadence in Australasia, Polynesia, and Oceanica.' The meeting of October 9 was occupied with Mr. Macgeorge's account of 'Changes in η Argus,' and Mr. G. Foord's 'Aërometer for Measuring Specific Gravities.' On November 13, our next meeting, the Rev. W. Kelly and Mr. Bosisto contributed papers, the former on 'On a Method of Combining Marsh's Test for Arsenic with Reinche's, so as to secure very reliable results;' the latter 'On the Cultivation of *Mentha piperita* in Victoria.' On November 22 it will be remembered the Australian Eclipse Expedition started from Melbourne. Our next meeting was a special one held on January 22, and was devoted to matters connected with the Eclipse Expedition, and to the approaching elections of council and office-bearers, which took place on our next meeting, on March 11. In April Mr. Harrison read a paper 'On Patents and their Utilisation.' Mr. Caldwell contributed one on 'Meat-preserving,' and Mr. P. F. Foord 'On Bi-angular Co-ordinates.' On May 13, Mr. F. Poolman read a description of his 'Self-Acting Safety Regulator and Coal Economiser for Steam Engines,' and Mr. A. K. Smith exhibited and described 'An Improved Valve for the Fire Plugs in Water Pipes,' the object being to prevent the entry of sewage water into the pipes when the pressure was off—a thing that might occur with the ordinary fire-plug valves. At our last meeting, on June 10, Mr. Macgeorge contributed the 'Results of Observations on Sirius and its Companions' with the great Melbourne telescope. Mr. White exhibited some new five-figure card logarithms which he had arranged, and Mr. Gibbons read a few 'Notes on M. Berthelot's Analysis of the Cranbourne Meteorite.'"

After alluding to the reports received from the Austra- Expedition for observing the total eclipse of Dec. 12, with which our readers are already acquainted, the President continued:—

"I have but little of more than ordinary interest to record of the past year's history of our several science or art institutions. The Technological Museum attached to the Public Library has made considerable progress; not only have the Commissioners established classes of chemistry, mineralogy, and practical mining, but have organised evening courses of lectures on popularised science and art. These have always been so well attended that it is to be regretted that a larger lecture-room than the one which was built for class teaching has not been erected. The earlier courses of these lectures have been printed and circulated by the Commissioners. They appear to have attracted considerable attention in England and on the Continent, especially those by Baron von Mueller on Forest Culture, and the purely technological series of Mr. George Foord. Prof. Negri, president of the Royal Geographical Society of Italy, in referring to Baron von Mueller's lecture, said he wished the Italian Government would have it translated into Italian and circulated throughout the country. A telegraph class for ladies has also been established in connection with the museum, at which pupils are instructed in the manipulation and ordinary use of the Morse telegraph instruments. It is intended, I believe, to hold periodic examinations of the pupils, and to grant certificates to such as prove themselves to be competent. The most recent step in the right direction the Commissioners have taken is the appointment of a gentleman of undoubted ability to conduct classes in geometry and mathematics. The additions that have been made from time to time to our national gallery of pictures now form a most valuable and beautiful collection, and it seems well adapted to fulfil one of its

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